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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,835	01/27/2006	Soren Dambach	39129-218718	6465

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VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER	
LE, BAO-LUAN Q	
ART UNIT	PAPER NUMBER
2851	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,835	DAMBACH ET AL.	
	Examiner	Art Unit	
	BAO-LUAN LE	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 January 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/31/2005, 11/2/2005 and 4/7/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 5/31/2005, 11/2/2005 and 4/7/2008 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "control unit" of claims 1-2 6 and "variable intensity reducer" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 1 and 26 are objected to because of the following informalities: "claim1" of claims 5, 19 and 25 appearing to be typographical errors. Appropriate corrections are required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claim 10, the phrase "preferably less than" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-14, 17-19, 22, 23 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stark '910 (Patent Application Publication US 20020140910 A1) in view of Dewald (US 20020085288 A1).

Regarding claims 1, 26 and 27, Stark '910 teaches a method of projection and a projection apparatus comprising: an imaging device (130), an illumination unit (112 and 114), a projection lens (147), a spatial light mixing system (122), dynamic color filter, i.e., color wheel (120), a sensor (162) and a control unit (131).

Stark '910 does not teach an optical outcoupling element.

Dewald teaches an optical outcoupling element (407).

It would have obvious to a person of ordinary skill in the art at the time of the invention to modify Stark '910 with optical outcoupling element of Dewald; because the optical outcoupling element of Dewald allows measuring the amount of light incident upon the imaging device.

Regarding claim 2, Stark '910 further teaches the controlling unit is used to control brightness (paragraph 0044).

Regarding claim 3, Stark '910 further teaches the sensor having no spectral resolution and supplying a brightness signal that contains integral information on the illumination of the imaging device (paragraph 0034 and 0044).

Regarding claim 4, Stark '910 further teaches the imaging device being a DMD (130; paragraph 0027).

Regarding claim 5, claim 5 is rejected for the same reason as claim 1.

Regarding claim 6, Stark '910 further teaches the spatial light mixing system being a light mixing rod extending in the direction of light propagation (Fig. 3; paragraph 0026).

Regarding claim 7, Dewald further teaches the optical outcoupling element being arranged in the illumination path even while an image being projected onto a projection screen in the illumination path (Fig. 4).

Regarding claim 8, Dewald further teaches the optical outcoupling element being arranged permanently in the illumination path (Fig. 4).

Regarding claim 9, Dewald further teaches the optical outcoupling element being a semi-transparent mirror (paragraph 0021).

Regarding claim 10, Dewald further teaches the optical outcoupling element coupling out less than 5 percent (paragraph 0021).

Regarding claim 11, Stark '910 does not teache the sensor being arranged in an optical plane which corresponds with the illumination plane of the imaging device.

Dewald further teaches the sensor being arranged in an optical plane which corresponds with the illumination plane of the imaging device (Fig. 1; paragraph 0016).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the sensor location of Stark '910 to be in an optical plane which corresponds with the illumination plane of the imaging device as taught by Dewald; because such arrangement allows more accurate measuring of illumination incident upon the imaging device.

Regarding claim 12, Dewald further teaches the corresponding planes contain an image of the output of the spatial light mixing system (Fig. 1; paragraph 0016).

Regarding claim 13, Stark '910 does not teach a sensor optics.

Dewald teaches a sensor optics (110) being used to generate on the sensor a reduced image of the illumination pattern of the imaging device (Fig. 1; paragraph 0016).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to add a sensor optics as taught by Dewald to the projection system of Stark '910; because the sensor optics allows mirroring the projection of the light source onto the sensor as projected onto the imaging device.

Regarding claim 14, Stark '910 further teaches the sensor being a sensor that supplies a brightness signal (paragraph 0044).

Regarding claim 17, Stark '910, further teaches the sensor being controlled by means of a clock signal of the dynamic color filter such that it determines the light intensities pertaining to the primary colors and possible color-neutral portions separately (Stark '910; Fig. 3 and 5; paragraph 0030, 0032 and 0043).

Regarding claim 18, Stark '910 further teaches the intensity of the light generated by the illumination unit being varied over time and that this variation over time is considered in the evaluation of the signals of the sensor (Fig. 5; paragraph 0034, 0043).

Regarding claim 19, Stark '910 further teaches the variation in the intensity being based on a stabilization pulse supplied to the lamp of the illumination unit and that the

change in intensity of the lamp caused by the stabilization pulse being registered and considered by the sensor (Fig. 5; paragraph 0034, 0043).

Regarding claim 22, Stark '910 further teaches the control unit (Stark '910; 131) being used to control the projected image during running operation of the projection apparatus (Fig. 3; paragraph 0031).

Regarding claim 23, Stark '910 further the illumination unit comprises a gas discharge lamp (Stark '910; paragraph 0038).

7. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stark '910 (Patent Application Publication US 20020140910 A1) in view of Dewald (US 20020085288 A1), as applied to claim 1, and in further view of Hatano (Patent US 5805243 A).

Regarding claim 15, neither Stark '910 nor Dewald teaches the sensor being sensor with a two-dimensional local resolution.

Hatano teaches the 2-dimensional sensor CCD (col 10, lines 17-24).

It would have obvious to a person of ordinary skill in the art at the time of the invention to modify the sensor of Dewald with the CCD as taught Hatano; because the CCD allows more efficient measuring the luminance spatial distribution over the incident surface which correspond to the projected image.

Regarding claim 16, Hatano further teaches the sensor being a sensor with spectral resolution (col 10, lines 17-24).

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stark '910 (Patent Application Publication US 20020140910 A1) in view of Dewald (US 20020085288 A1), as applied to claim 1, in further view of Stark '999 (Patent US 5967636 A).

Regarding claim 20, neither Stark '910 nor Dewald teaches a shielding that surrounds the sensor.

Stark '999 teaches a black plastic cover surrounding a sensor (Stark '999; col. 4, lines 23-29).

It would have obvious to a person of ordinary skill in the art at the time of the invention to modify the sensor of Stark '910 to include a cover as taught by Stark '999; because the black plastic cover absorbs unwanted light from entering the sensor.

9. Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stark '910 (Patent Application Publication US 20020140910 A1) in view of Dewald (US 20020085288 A1), as applied to claim 1, and in further view of Watanabe (Patent US 5597223 A).

Regarding claim 21, neither Stark '910 nor Dewald teaches a variable intensity reducer.

Watanabe teaches a variable intensity reducer arranged in the immediate vicinity of the focal plane of a focusing lamp reflector (104).

It would have obvious to a person of ordinary skill in the art at the time of the invention to modify Stark '910 projection system with the variable intensity reducer of

Watanabe; because the mechanical variable intensity reducer further allows fine tuning the light intensity and shaping the light beam and thereby enhancing contrast.

Regarding claim 24, neither Stark '910 nor Dewald teaches a rear projection apparatus.

Watanabe further teaches a rear projection apparatus (Watanabe; Fig. 39).

It would have obvious to a person of ordinary skill in the art at the time of the invention to modify the projection of Stark '910 to be a rear projection as taught by Watanabe; because rear projection method allowing making a projection TV as taught by Watanabe which has a simpler design of fixed focus distant in a controlled environment of the enclosure.

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stark '910 (Patent Application Publication US 20020140910 A1) in view of Dewald (US 20020085288 A1), as applied to claim 1, and in further view of Ioka (Patent Application Publication US 20020041364 A1).

Regarding 25, neither Stark '910 nor Dewald teaches a projection wall comprising a plurality of projection apparatuses.

Ioka teaches a projection wall comprising a plurality of projection apparatuses (Fig. 2).

It would have obvious to a person of ordinary skill in the art at the time of the invention to modify the projection apparatus of Stark '910 with the projection wall of Ioka; because it allows projection of higher resolution image.

Conclusion

11. The prior art references made of record and not relied upon are considered pertinent to applicant's disclosure. The following are brief descriptions of such references.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BAO-LUAN LE whose telephone number is (571) 270-5362. The examiner can normally be reached on Monday-Thursday, 7:30AM-5:00PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

/William C. Dowling/

Primary Examiner, Art Unit 2851

Bao-Luan Le
Patent Examiner, USPTO
(571) 270-5362
baoluan.le@uspto.gov